Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Kykuit Resources, LLC
Well Name/Number: Rich #5B-21-18
Location: NW SW Section 5 T21N R18E
County: Fergus **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 3 to 4 days
Unusually deep drilling (high horsepower rig): No, small single drilling rig TD 2200'.
Possible H2S gas production: No, sweet gas production .
In/near Class I air quality area: Not in a Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X Air quality permit (AQB review)
___ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: Small single derrick drilling rig to drill to 2200' TD.
_____

Water Quality

(possible concerns)
Salt/oil based mud: No, freshwater and freshwater mud system to be used.___
High water table: No, high water table expected.___
Surface drainage leads to live water: Closest drainage is an unnamed ephemeral tributary drainage to Flax Coulee, about 1/4 of a mile to the northwest of this location.__
Water well contamination: None, closest water wells are about 3/4 of a mile to the south, 1 mile to the south and 1 mile to the west from this location, depth of this wells are 27', 15' and 240'. Surface hole will be drilled with freshwater to 250'. Steel surface casing will be run and cemented to surface to protect ground waters.___
Porous/permeable soils: No, sandy bentonitic soils.
Class I stream drainage: No, Class I stream drainages nearby.

Mitigation:
__ Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____
Comments: Adequate surface casing to be set , 250' to protect water wells.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, streams to be crossed, only ephemeral drainages.
High erosion potential: No, small cut up to 5.7' and moderate fill up to 15.8', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, small drillsite, 200'X200'.
Damage to improvements: Slight, surface use is grassland.
Conflict with existing land use/values: Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: Will utilize existing county road. Short access off existing county road to be build, about 1 mile of new access will be built into this location. Unlined earthen pits will be utilized for drilling. Top water will be recycled to the next location and solids will be allowed to dry in the pits. When pits are dry they will be filled in with subsoil and topsoil spread. No concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences are about 5/8 of a mile to the east northeast of this wellsite.
Possibility of H2S: None, all formations are sweet gas producers in area of review.
Size of rig/length of drilling time: Small single derrick drilling rig/Short drilling time 3 to 4 days.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate amount of surface casing and BOP equipment should mitigate any problems. _____

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites 7 miles to the north is the Upper Missouri River Breaks National Monument boundary.
Creation of new access to wildlife habitat: None
Conflict with game range/refuge management: None
Threatened or endangered Species: Threatened or endangered species identified are the Pallid Sturgeon and Black-Footed Ferret. Species of concern is the Greater Sage Grouse.

Mitigation:
__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)

__ Screening/fencing of pits, drillsite
__ Other:___._____

Comments: Private surface lands. Surface use is grassland. About ¼ of a mile to the north and south are cultivated fields. About ½ of a mile to the west and southwest is a county gravel road. Sage Grouse Mitigation for Oil & Gas Operations on School Trust Lands (November 2007) requires a ¼ mile buffer around active Leks and time restrictions apply. This well is more than ¼ mile from the nearest Lek and will be drilled after June 15, 2010 and before March 1, 2011. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified

Mitigation

__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other: _____

Comments: Surface land is private. No concerns.

Social/Economic

(possible concerns)

__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation

Comments: No, small impact expected from the drilling of this well.

Remarks or Special Concerns for this site

No special concerns about this wellsite. This is a Cretaceous Eagle Formation test to be drilled to 2200' TD.

Summary: Evaluation of Impacts and Cumulative effects

No significant or long term impacts expected from the drilling of this well. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: July 7, 2010

Other Persons Contacted:

_____
_Montana Bureau of Mines and Geology, GWIC website_____
(Name and Agency)
__Fergus County water wells_____
(subject discussed)
__May 27, 2010_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Fergus County
(subject discussed)
_June 22, 2010_____
(date)

Mr. Tom Stivers, Biologist, Montana FWP
(Name and Agency)
Greater Sage Grouse Leks in Fergus County, Montana
(subject discussed)
_June 22, 2010_____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____